RESEARCH, DEVELOPMENT & TECHNOLOGY TRANSFER
QUARTERLY PROGRESS REPORT

Wisconsin Department of Transportation
DT1241 02/2011

INSTRUCTIONS:
Research project investigators and/or project managers should complete a quarterly progress report (QPR) for each calendar quarter during which the projects are active.

WisDOT research program category: ☐ Policy research ☒ Wisconsin Highway Research Program ☐ Other ☐ Pooled fund TPF#		Report period year: 2013 ☒ Quarter 1 (Jan 1 – Mar 31) ☐ Quarter 2 (Apr 1 – Jun 30) ☐ Quarter 3 (Jul 1 – Sep 30) ☐ Quarter 4 (Oct 1 – Dec 31)
Project title: Understanding and Complying with New Storm Water Mitigation Requirements from the EPA		
Project investigator: Qian Liao	Phone: 414-229-4228	E-mail: liao@uwm.edu
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WisDOT project ID: 0092-13-03	Other project ID:	Project start date: 8/12/2012
Original end date: 2/13/2014	Current end date: 2/13/2014	Number of extensions: 0

Project schedule status:
☒ On schedule ☐ On revised schedule ☐ Ahead of schedule ☐ Behind schedule

Project budget status:

Total Project Budget	Expenditures Current Quarter	Total Expenditures	% Funds Expended	% Work Completed
$74,998.00	$2663.25	$17,746.35	24%	30%

Project description:

The overall objective of the proposed research is to design and conduct field sampling experiments to monitor the concentration of sediment, turbidity and other associated pollutant in stormwater runoff at selected WisDOT constructions sites representing different stormwater runoff characteristics, e.g., urban vs. rural. The research will also evaluate the effectiveness of various best management practices that control erosion and sediment discharge based on quantitative measures, i.e., the turbidity level. Date collected and analyzed will be applied to establish appropriate stormwater runoff monitoring protocols for WisDOT construction projects that can comply with the recently established Effluent Limitation Guidelines (ELGs) by EPA. We will also communicate the research results with WisDOT for future implementation. Specifically, the proposed study will address the following objectives.

- We will review the technical details of the EPA ELGs, design sample collection and measurement procedures.
- We will identify on-going WisDOT construction sites for monitoring implementations, Site selected shall be representative of various soil type, disturbed area, hydrological conditions, and erosion control BMPs.
- For each selected site, we will determine sampling frequencies based on the magnitude (return period) and duration of precipitation events. We will select sampling locations where water enters the construction site, at pre-treatment, at post-treatment and leaving the construction site (discharging points).
- Based on sampling results, we will determine the range of the effectiveness of different erosion control devices (BMP's) in minimizing the TSS and turbidity level.
- We will also monitor the change of turbidity level of the nearby receiving water bodies, including streams and rivers or stormwater drainage systems, on both the upstream and downstream side of the construction site.

Progress this quarter (includes meetings, work plan status, contract status, significant progress, etc.):

1. Conducted thorough literature review on the EPA's final Effluent Limitation Guildlines (ELGs), a. WisDOT Erosion Control Implementation Plan (ECIP), TRANS 401, standard sampling proptocols for NTU turbidity, pH and conductivity.
2. Developed a sampling approach for a selected site: a bridge over a branck of the Menomonee River on the West Capitol Drive of Milwaukee, WI.

Anticipated work next quarter:

1. Continue literature search
2. With the communication with POC, identify the final list of 8 project sites for monitoring work
3. Started field work on several selected sites that may have runoff issues from spring melting and storms

Circumstances affecting project or budget:

None

Attach / insert Gantt chart and other project documentation

Task	2012	2013				2014
	4	1	2	3	4	1
1. Literature Review						
2. Work plan development						
3. Work plan execution and data collection/analysis						
4. Final Report						

Proposed Current

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Staff receiving QPR:	Date received:
Staff approving QPR:	Date approved: